REMARKS

Claims 1-19 are pending in this application and were subject to a restriction requirement. Claims 12-16 are withdrawn from consideration by election filed on July 21, 2004. Claims 1-11 and 17-19 stand rejected. No claim is objected to. Claims 1, 17, and 19 are amended herein. Support for amended claims can be found, for example, at page 3, lines 1-18 of the specification as well as throughout the examples and claims as originally filed. Thus, no new matter is added. Claim 11 is cancelled herein without prejudice or disclaimer.

35 U.S.C. § 102

Claims 1-4, 6, 7, 9-11, 17, 18, and 19 stand rejected under 35 U.S.C. 102(e) as being anticipated by Moore, *et al.* U.S. 2003/0143757 (hereinafter "Moore, *et al.*"). In addition, the Examiner does not find Applicant's arguments, filed on March 25, 2005, persuasive. Specifically, the Examiner alleges that Moore, *et al.* teach NMR analysis of multiple drug cores. More specifically, the Examiner alleges that "Moore contemplates testing multiple drug cores in the same sample which reads on mixing a substrate, product or ligand with at least one compound..." Applicant respectfully submits that a single prior art reference anticipates a claimed invention only if it identically shows every element of the claimed invention. *In re Bond,* 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Applicant respectfully submits that Moore, *et al.* merely disclose a mixture of compounds with or without a target molecule, but not a mixture of substrate, product, and/or ligand, and chemical compound with or without a target molecule. See, for instance, page 2, column 1 paragraph 0016 of Moore, *et al.* For the purpose of advancing prosecution and in no way acquiescing that Moore, *et al.* disclose a mixture of ligand **and** chemical compounds with a target molecule, Applicant amends claims 1, 17, and 19 to recite "substrate" and/or "product" rather than "substrate," "product," and/or "ligand." More importantly, Moore, *et al.* do not contemplate exposing substrate or product to a target molecule with chemical compounds and generating a spectrum of the **substrate or product**. Moore, *et al.* merely disclose obtaining spectra of **drug cores** with a target molecule. Thus, Moore, *et al.* do not identically show each and every element of the independent claims of this invention.

In addition, claims 1-11, 18 and 19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Thompson *et al.*, *Proc. Natl. Acad. USA*, Vol. 94 pp. 14249-14254 (Dec. 1997). The Examiner repeats his allegation that Thompson, *et al.* disclose "NMR analysis of cathepsin K adducts with inhibitors." Applicants respectfully submits that Thompson, *et al.* do not disclose generating a spectrum of the substrate or product of cathepsin K. They merely disclose a selectively double-labeled inhibitor alone or with cathepsin K followed by a 15N-decoupled spectrum of the same mixture (see figure 4 a-c in Thompson, *et al.*). These spectra are of the

inhibitor not of substrate or product. Thompson, *et al.*, therefore, do not identically show each and every element of the independent claims of this invention.

Claims 1-11, 18 and 19 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Hajduk, *et al. J. Am .Chem. Soc.* 1997 Vol. 119 pp. 12257-12261. Specifically, the Examiner maintains his allegation that Hadjuk, *et al.* teach "identifying compounds that bind to macromolecules by one-dimensional NMR." Furthermore, the Examiner does not find the Applicants arguments, filed March 25, 2005, persuasive. The Examiner alleges that because Hadjuk, *et al.* disclose spectra having signals for eight compounds in the presence and absence of FK506 binding protein (FKBP), they "anticipate the claimed invention." Applicant respectfully submits that Hadjuk, *et al.* rely on compound spectra only in the presence and absence of FKBP. They do not disclose spectra of a substrate or product of a target molecule, in their case FKBP. Thus, Hadjuk, *et al.* do not teach each and every element of the instantly claimed invention.

Claims 1-4, 6, 7, 9-11, 17 and 19 also stand rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by Fesik, *et al.* (WO 98/48264 hereinafter "Fesik, *et al.* I"). Specifically, the Examiner maintains his allegation that Fesik, *et al.* I teach generating a diffusion-filtered proton spectrum of "one or a mixture of chemical compounds," exposing one or a mixture of compounds to a target and comparing the first and second spectra. Applicant respectfully submits that Fesik, *et al.* I merely disclose a comparison of a spectrum of chemical compound alone with a spectrum of chemical compound mixed with target molecule, wherein the presence of target molecule significantly effects T2 relaxation time of residual peaks on the compound. Thus, Fesik *et al.* I only disclose obtaining spectra of chemical compounds but not of **substrate or product** of a target molecule. More importantly, they do not disclose obtaining at least one spectrum of the substrate or product to identify compounds that interact with the target molecule in a mixture comprising target molecule, chemical compound and substrate or product. Thus, Fesik, *et al.* I do not teach each and every element of the instantly claimed invention.

Claims 1-4, 6, 7, 9-11, 17 and 19 also stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Fesik, *et al.* (WO 97/18469 hereinafter "Fesik, *et al.* II"). The Examiner again maintains his allegations that Fesik, *et al.* II teach screening chemical compounds for binding a given target molecule using a 15N/1H NMR correlation spectrum. The Examiner also finds the Applicant's arguments, filed on March 25, 2005, in relation to this reference, unpersuasive. Applicant respectfully submits that Fesik, *et al.* II discloses spectra of the **target molecule** and not of a **substrate or product**. The spectrum disclosed in Fesik II is two-dimensional spectrum of the target molecule or protein in the presence or absence of an interactive chemical compound. There is no disclosure of obtaining a spectrum of the substrate or product. Thus, Fesik, *et al.* II do not teach each and every element of the instantly claimed invention.

Applicant respectfully submits that in view of the forgoing remarks, Applicant has overcome the Examiner's rejection under 35 U.S.C. §102(b) for independent claims 1 and 19 and that these rejections should be withdrawn. Claim 17 is amended accordingly. Claim 11 is cancelled herein. As claims 2-10, 17 and 18 depend from claim 1, either directly or indirectly, Applicant believes rejection of these claims has been overcome and that they should also be withdrawn.

Applicant reserves the right to prosecute, in one or more patent applications, the claims to non-elected inventions, the cancelled claims, the claims as originally filed, and any other claims supported by the specification. Applicant thanks the Examiner for the Office Action and believes this response to be a full and complete response to such Office Action. Accordingly, favorable reconsideration and allowance of the pending claims is earnestly solicited. If it would expedite the prosecution of this application, the Examiner is invited to confer with the Applicant's undersigned attorney.

Respectfully submitted,

Andrea V. Lockenour
Attorney for Applicant
Registration No. 51,962

GLAXOSMITHKLINE
Corporate Intellectual Property - UW2220
P.O. Box 1539
King of Prussia, PA 19406-0939
Phone (610) 270-7568
Facsimile (610) 270-5090
N:\AVL\patapps\NMR\P51032\ROAfin2.doc